

PUB-NO: DE019909390C1

DOCUMENT-IDENTIFIER: **DE 19909390 C1**

TITLE: **Laser** powder deposition **head,** useful for tool  
or  
component coating or repair, rapid prototyping  
or rapid  
tooling processes, has a radially symmetrical  
flow  
calming channel arrangement between a **swirl**  
chamber and  
an annular outlet gap

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INVENTOR-INFORMATION:

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ABSTRACT:

CHG DATE=20010403 STATUS=N>A **laser** powder deposition **head,** has a  
radially  
symmetrical arrangement of flow calming channels (2) between a  
powder/gas **swirl**  
chamber (1) and an annular outlet gap (14). A **laser** processing **head**  
has a  
radially symmetrical arrangement of cylindrical calming channels (2)

which are  
parallel to the **laser** beam longitudinal axis and which are located  
between a  
powder/gas stream **swirl** chamber (1) and an annular gap (14) forming a  
coaxial  
hollow jet directed onto a workpiece surface. An Independent claim  
is also  
included for a surface treatment process employing the above **laser**  
processing  
**head**.